What is claimed is:

1. A method for controlling communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices occurs using first and second communication protocols, at least the first communication protocol using at least one time period during which communication is governed by rules of carrier sense multiple access, the method comprising the step of:

transmitting a guard packet from a first communication device in accordance with the first communication protocol, the guard packet being formatted to alert and inform communication devices that use the first communication protocol to refrain from communication for a period of time in the frequency band to enable transmission of information from, or reception of information by, the first communication device in accordance with the second communication protocol during the period of time without colliding with signals in the frequency band on the first communication protocol.

2. The method of claim 1, wherein the step of transmitting the guard packet comprises transmitting a header comprising a data portion and a duration identifier portion, the data portion having a bit pattern that is recognized by communication devices using the first communication protocol to enter a back-off state and the duration identifier portion is recognized by communication devices using the first communication protocol to refrain from communicating using the first communication protocol for a period of time precisely sufficient to permit the transmission of a packet of information using the second communication protocol.

3. The method of claim 2, wherein the step of transmitting the header comprises transmitting a data portion comprising a bit pattern that continues for a period of time sufficient to cover a time duration of at least one fragment of information according to the first communication protocol and one acknowledgment message according to the second communication protocol.

4. The method of claim 2, wherein the step of transmitting the guard packet further comprises transmitting a trailer portion after the header portion to further prevent communication devices using the first communication protocol from

communicating in the frequency band for a period of time sufficient to allow the first communication device to transmit or receive the information in accordance with the second communication protocol.

5. The method of claim 4, and further comprising the step of filtering out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the first communication device to prevent interference with a signal to be transmitted by the first communication device using the second communication protocol.

6. The method of claim 4, and further comprising the step of filtering out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the first communication device to prevent interference with a signal to be received by the first communication device using the second communication protocol.

7. The method of claim 4, and further comprising the step of transmitting information from the first communication device in accordance with the first communication protocol during the trailer portion of the guard packet.

8. The method of claim 1, wherein the step of transmitting the guard packet comprises transmitting a header comprising a sequence of a predetermined number of clear-to-send (CTS) packets that alert other communication devices using the first communication protocol not to transmit in the frequency band, each CTS packet comprising a duration identifier to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier depending on the place in the sequence of a particular CTS packet.

9. The method of claim 8, wherein the step of transmitting the header comprises transmitting N CTS packets, wherein the duration identifier of a CTS(i) packet has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the frequency band and (N-i)*L, wherein L is the duration of a CTS packet and i is the index of the CTS packet in the sequence.

10. The method of claim 9, wherein the step of transmitting the header comprises transmitting N CTS packets, where N is equal to the smallest integer greater than F/L + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

11. The method of claim 10, wherein the first communication device transmits the sequence of CTS packets when the first communication device is requested to receive information from a communication device using the second communication protocol.

12. The method of claim 1, wherein the step of transmitting the guard packet comprises transmitting a header comprising a sequence of a predetermined number of subpackets, each subpacket comprising a request-to-send (RTS) packet and a silent period, the silent period lasting for a time period based on the length of a clear-to-send (CTS) packet according to the first communication protocol, and wherein the RTS packet comprises a duration identifier to inform an access point device for the first communication protocol to transmit a CTS packet in order to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier in a RTS packet depending on the place in the sequence of a particular RTS packet.

13. The method of claim 12, wherein the step of transmitting the header comprises transmitting N subpackets, and wherein the duration identifier of a RTS(i) subpacket has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the frequency band and (N-i)*L + M, wherein L is the duration of a subpacket, i is the index of the subpacket in the sequence and M is the duration of a clear-to-send packet.

14. The method of claim 13, wherein the step of transmitting the header comprises transmitting N subpackets, where N is equal to the smallest integer greater than (F/L) + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

15. The method of claim 1, wherein the first communication protocol is a fixed frequency wireless communication protocol and the second communication protocol is a frequency hopping wireless communication protocol in which time slots of information are sent with signals at different frequencies in the frequency band and may at least partially overlap in frequency with signals of the first communication protocol.

16. The method of claim 15, wherein the first communication protocol is the IEEE 802.11 communication protocol and versions thereof, and the second communication protocol is the Bluetooth™ communication protocol and versions thereof.

17. The method of claim 1, wherein the first communication protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the first communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention time interval during which communication devices in the frequency band using the first communication protocol contend for access to transmit information using carrier sense multiple access procedures, and further comprising the step of determining when a time slot of information to be transmitted using the second communication protocol will at least partially overlap with the contention time interval as a condition precedent to said step of transmitting the guard packet.

18. The method of claim 1, wherein the first communication protocol is a fixed frequency wireless communication protocol and the second communication protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the second communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention free time interval during which synchronous type data is transmitted between communication devices using the second communication protocol, wherein the step of transmitting a guard packet is performed when it is

determined that information is to be transmitted during the at least one contention free time interval.

19. The method of claim 1, and further comprising step of transmitting information from, or receiving information at, the first communication device using the second communication protocol, wherein the information transmitted from or received by the first communication device comprises synchronous type data.

20. The method of claim 1, and further comprising the step of transmitting control parameters from the first communication to the plurality of communication devices for managing communication in the frequency band using the first and second communication protocols.

21. The method of claim 20, and further comprising the step of generating the control parameters in the first communication device to adjust a maximum fragment size of information transmitted by communication devices using the first communication protocol to manage throughput of synchronous type data using the second communication protocol, so as to minimize a required duration of the guard packet which in turn minimizes impact on throughput of information using the first communication protocol when synchronous type data is to be transmitted using the second communication protocol.

22. The method of claim 20, wherein the first communication device generates control parameters to dynamically adjust the amount of access to the frequency band for synchronous type data based on network loading conditions in the frequency band measured by the first communication device.

23. The method of claim 1, wherein the first communication device measures the activity in the frequency band to determine whether and which communication protocols are active in the band, whereby prior to transmitting a guard packet, the first communication device determines whether a transmission of information on the second communication protocol at least partially overlaps in frequency with a transmission of information on the first communication protocol in the frequency band.

24. A method for controlling communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices occurs using first and second communication protocols, at least the first communication protocol using at least on time period that operates on rules of carrier sense multiple access, the method comprising steps of:

at a first communication device, monitoring activity in the band to determine in which frequencies and whether communication occurs using the first and second communication protocols;

when information is to be sent from the first communication device to another, or information is to be sent to the first communication device from another communication device, using the second communication protocol, determining whether a frequency of the signal be transmitted using the second communication protocol at least partially overlaps with the frequency range of signals transmitted in the frequency band using the first communication protocol;

if it is determined that the signal to be transmitted using the second communication protocol may collide with signals in the frequency band on the first communication protocol, then transmitting a guard packet from the first communication device in accordance with the first communication protocol, the guard packet being formatted to alert and inform the first set of communication devices to refrain from communication for a period of time in the frequency band to enable transmission of information from, or reception of information by, the first communication device in accordance with the second communication protocol in the frequency band.

25. The method of claim 24, wherein the step of transmitting the guard packet comprises transmitting a header comprising a data portion and a duration identifier portion, the data portion having a bit pattern that is recognized by communication devices using the first communication protocol to enter a back-off state and the duration identifier portion is recognized by communication devices using the first communication protocol to refrain from communicating using the first communication protocol for a period of time precisely sufficient to permit the transmission of a packet of information using the second communication protocol.

26. The method of claim 25, wherein the step of transmitting the header comprises transmitting a data portion comprising a bit pattern that continues for a period of time sufficient to cover a time duration of at least one fragment of information according to the first communication protocol and one acknowledgment message according to the second communication protocol.

27. The method of claim 25, wherein the step of transmitting the guard packet further comprises transmitting a trailer portion after the header portion to further prevent communication devices using the first communication protocol from communicating in the frequency band for a period of time sufficient to allow the first communication device to transmit or receive the information in accordance with the second communication protocol.

28. The method of claim 27, and further comprising the step of filtering out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the first communication device to prevent interference with a signal to be transmitted by the first communication device using the second communication protocol.

29. The method of claim 27, and further comprising step of filtering out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the first communication device to prevent interference with a signal to be received by the first communication device using the second communication protocol.

30. The method of claim 27, and further comprising the step of transmitting information from the first communication device in accordance with the first communication protocol during the trailer portion of the guard packet.

31. The method of claim 24, wherein the step of transmitting the guard packet comprises transmitting a header comprising a sequence of a predetermined number of clear-to-send (CTS) packets that alert other communication devices using the first communication protocol not to transmit in the frequency band, each CTS packet comprising a duration identifier to inform communication devices using the first communication protocol to refrain from communication for a period of time, the

value of the duration identifier depending on the place in the sequence of a particular CTS packet.

32. The method of claim 31, wherein the step of transmitting the header comprises transmitting N CTS packets, wherein the duration identifier of a CTS(i) packet has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the frequency band and (N-i)*L, wherein L is the duration of a CTS packet and i is the index of the CTS packet in the sequence.

33. The method of claim 32, wherein the step of transmitting the header comprises transmitting N CTS packets, where N is equal to the smallest integer greater than F/L + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

34. The method of claim 33, wherein the first communication device transmits the sequence of CTS packets when the first communication device is requested to receive information from a communication device using the second communication protocol.

35. The method of claim 24, wherein the step of transmitting the guard packet comprises transmitting a header comprising a sequence of a predetermined number of subpackets, each subpacket comprising a request-to-send (RTS) packet and a silent period, the silent period lasting for a time period based on the length of a clear-to-send packet, and wherein the RTS packet comprises a duration identifier that is received by an access point device for the first communication protocol to transmit a CTS packet in order to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier in a RTS packet depending on the place in the sequence of a particular RTS packet.

36. The method of claim 35, wherein the step of transmitting the header comprises transmitting N subpackets, and wherein the duration identifier of a RTS(i) subpacket has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the

frequency band and (N-i)*L + M, wherein L is the duration of a subpacket, i is the index of the subpacket in the sequence and M is the duration of a clear-to-send packet.

37. The method of claim 36, wherein the step of transmitting the header comprises transmitting N subpackets, where N is equal to the smallest integer greater than (F/L) + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

38. The method of claim 24, wherein the first communication protocol is a fixed frequency wireless communication protocol and the second communication protocol is a frequency hopping wireless communication protocol in which time slots of information are sent with signals at different frequencies in the frequency band and may at least partially overlap in frequency with signals of the first communication protocol.

39. The method of claim 38, wherein the first communication protocol is the IEEE 802.11 communication protocol and versions thereof, and the second communication protocol is the Bluetooth™ communication protocol and versions thereof.

40. The method of claim 24, wherein the first communication protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the first communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention time interval during which communication devices in the frequency band using the first communication protocol contend for access to transmit information using carrier sense multiple access procedures, and further comprising the step of determining when a time slot of information to be transmitted using the second communication protocol will at least partially overlap with the contention time interval as a condition precedent to said step of transmitting the guard packet.

41. The method of claim 24, wherein the first communication protocol is a fixed frequency wireless communication protocol and the second communication

protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the second communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention free time interval during which synchronous type data is transmitted between communication devices using the second communication protocol, wherein the step of transmitting a guard packet is performed when it is determined that information is to be transmitted during the at least one contention free time interval.

42. The method of claim 24, and further comprising step of transmitting information from, or receiving information at, the first communication device using the second communication protocol, wherein the information transmitted from or received by the first communication device comprises synchronous type data.

43. The method of claim 42, and further comprising the step of transmitting control parameters from the first communication to the plurality of communication devices for managing communication in the frequency band using the first and second communication protocols.

44. The method of claim 43, and further comprising the step of generating the control parameters in the first communication device to adjust a maximum fragment size of information transmitted by communication devices using the first communication protocol to manage throughput of synchronous type data using the second communication protocol, so as to minimize a required duration of the guard packet which in turn minimizes impact on throughput of information using the first communication protocol when synchronous type data is to be transmitted using the second communication protocol.

45. The method of claim 43, wherein the first communication device generates control parameters to dynamically adjust the amount of access to the frequency band for synchronous type data based on data loading in the frequency band measured by the first communication device.

46. The method of claim 24, wherein the first communication device measures the activity in the frequency band to determine whether and which communication protocols are active in the band, whereby prior to transmitting a guard packet, the first communication device determines whether a transmission of information on the second communication protocol at least partially overlaps in frequency with a transmission of information on the first communication protocol in the frequency band.

47. A controller for use in a wireless communication device that operates in a communication system that allows for communication among a plurality of wireless communication devices in a common frequency band in which communication between communication devices occurs using first and second communication protocols, at least the first communication protocol using at least one time period that operates on rules of carrier sense multiple access, the controller being configured or programmed to perform the step of:

generating a guard packet for transmission from the communication device in accordance with the first communication protocol, the guard packet being formatted to alert and inform communication devices that use the first communication protocol to refrain from communication for a period of time in the frequency band to enable transmission of information from, or reception of information by, the communication device in accordance with the second communication protocol during the period of time without colliding with signals from communication devices using the first communication protocol.

48. The controller of claim 47, wherein the controller is configured or programmed to generate the guard packet by generating a header comprising a data portion and a duration identifier portion, the data portion having a bit pattern that is recognized by communication devices using the first communication protocol to enter a back-off state and the duration identifier portion is recognized by communication devices using the first communication protocol to refrain from communicating using the first communication protocol for a period of time precisely sufficient to permit the transmission of a packet of information using the second communication protocol.

49. The controller of claim 48, wherein the controller is configured or programmed to generate the header by generating a data portion comprising a bit pattern that continues for a period of time sufficient to cover a time duration of at least one fragment of information according to the first communication protocol and one acknowledgment message according to the second communication protocol.

50. The controller of claim 48, wherein the controller is configured or programmed to generate the guard packet by further generating a trailer portion after the header portion to further prevent communication devices using the first communication protocol from communicating in the frequency band for a period of time sufficient to allow the communication device to transmit or receive the information in accordance with the second communication protocol.

51. The controller of claim 50, wherein the controller is configured or programmed to filter out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the communication device to prevent interference with a signal to be transmitted by the communication device using the second communication protocol.

52. The controller of claim 50, wherein the controller is configured or programmed to filter out energy in a frequency segment of the trailer portion of the guard packet that is transmitted by the communication device to prevent interference with a signal to be received by the communication device using the second communication protocol.

53. The controller of claim 50, wherein the controller is configured or programmed to supply information for transmission from the communication device in accordance with the first communication protocol during the trailer portion of the guard packet.

54. The controller of claim 47, wherein the controller is configured or programmed to generate the guard packet by generating a header comprising a sequence of a predetermined number of clear-to-send (CTS) packets that alert other communication devices using the first communication protocol not to transmit in the frequency band, each CTS packet comprising a duration identifier to inform

communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier depending on the place in the sequence of a particular CTS packet.

55. The controller of claim 54, wherein the controller is configured or programmed to generate the header by generating N CTS packets, wherein the duration identifier of a CTS(i) packet has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the frequency band and (N-i)*L, wherein L is the duration of a CTS packet and i is the index of the CTS packet in the sequence.

56. The controller of claim 55, wherein the controller is configured or programmed to generate the header by generating N CTS packets, where N is equal to the smallest integer greater than F/L + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

57. The controller of claim 56, wherein the controller is configured or programmed to generate the sequence of CTS packets when the communication device is requested to receive information from a communication device using the second communication protocol.

58. The controller of claim 47, wherein the controller is configured or programmed to generate the guard packet by generating a header comprising a sequence of a predetermined number of subpackets, each subpacket comprising a request-to-send (RTS) packet and a silent period, the silent period lasting for a time period based on the length of a clear-to-send (CTS) packet according to the first communication protocol, and wherein the RTS packet comprises a duration identifier to inform an access point device for the first communication protocol to transmit a CTS packet in order to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier in a RTS packet depending on the place in the sequence of a particular RTS packet.

59. The controller of claim 58, wherein the controller is configured or programmed to generate the header by generating N subpackets, and wherein the

duration identifier of a RTS(i) subpacket has a value determined by the sum of the time duration of a packet of information to be transmitted using the second communication protocol in the frequency band and (N-i)*L + M, wherein L is the duration of a subpacket, i is the index of the subpacket in the sequence and M is the duration of a clear-to-send packet.

60. The controller of claim 59, wherein the controller is configured or programmed to generate the header by generating N subpackets, where N is equal to the smallest integer greater than (F/L) + 1, where F is the longest duration of a fragment of information that is transmitted using the first communication protocol.

61. The controller of claim 47, wherein the first communication protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the first communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention time interval during which communication devices in the frequency band using the first communication protocol contend for access to transmit information using carrier sense multiple access procedures, and wherein the controller is configured or programmed to determine when a time slot of information to be transmitted using the second communication protocol will at least partially overlap with the contention time interval as a condition precedent to said step of transmitting the guard packet.

62. The controller of claim 47, wherein the first communication protocol is a fixed frequency wireless communication protocol and the second communication protocol uses a plurality of time frames each containing a plurality of time intervals, each time interval having a variable time duration and being dedicated to functions determined by rules of the second communication protocol, wherein each time frame is transmitted at a different frequency in the band and wherein the time frame comprises at least one contention free time interval during which synchronous type data is transmitted between communication devices using the second communication protocol, wherein the controller is configured or programmed to generate a guard

packet when it is determined that information is to be transmitted during the at least one contention free time interval.

63. The controller of claim 47, wherein the controller is configured or programmed to supply information for transmission from, or receive information transmitted to, the communication device using the second communication protocol, wherein the information transmitted from or received by the communication device comprises synchronous type data.

64. The controller of claim 63, wherein the controller is configured or programmed so that the communication device transmits control parameters to the plurality of communication devices for communication in the frequency band using the first and second communication protocols.

65. The controller of claim 64, wherein the controller is configured or programmed to generate control parameters to adjust a maximum fragment size of information transmitted by communication devices using the first communication protocol to manage throughput of synchronous type data using the second communication protocol, so as to minimize a required duration of the guard packet which in turn minimizes impact on throughput of information using the first communication protocol when synchronous type data is to be transmitted using the second communication protocol.

66. The controller of claim 65, wherein the controller is configured or programmed to generate control parameters to dynamically adjust the amount of access to the frequency band for synchronous type data based on network loading in the frequency band measured by the communication device.

67. The controller of claim 47, wherein the controller is configured or programmed process signals representing a measure of activity in the frequency band to determine whether and which communication protocols are active in the band, whereby prior to generating a guard packet for transmission, the controller determines whether a transmission of information on the second communication protocol at least partially overlaps in frequency with a transmission of information on the first communication protocol in the frequency band.

68. A software product stored on a processor readable memory containing instructions that, when executed by a processor, causes the processor to perform steps of:

generate a guard packet for transmission from a communication device in accordance with a first communication protocol, the guard packet being formatted to alert and inform communication devices using the first communication protocol to refrain from communication for a period of time in a frequency band to enable transmission of information from, or reception of information by, the communication device in accordance with a second communication protocol during the period of time without colliding with signals in the frequency band.

69. The software product of claim 68, wherein the instructions for causing the processor to generate the guard packet further comprise instructions to generate a header comprising a data portion and a duration identifier portion, the data portion having a bit pattern that is recognized by communication devices using the first communication protocol to enter a back-off state and the duration identifier portion is recognized by communication devices using the first communication protocol to refrain from communicating using the first communication protocol for a period of time precisely sufficient to permit the transmission of a packet of information using the second communication protocol.

70. The software product of claim 69, wherein the instructions for causing the processor to generate the header comprises instructions for generating a data portion comprising a bit pattern that continues for a period of time sufficient to cover a time duration of at least one fragment of information according to the first communication protocol and one acknowledgment message according to the second communication protocol.

71. The software product of claim 68, wherein the instructions for causing the processor to generate the guard packet further comprise instructions for generating a trailer portion after the header portion to further prevent communication devices using the first communication protocol from communicating in the frequency band for a period of time sufficient to allow the first communication device to

transmit or receive the information in accordance with the second communication protocol.

72. The software product of claim 68, wherein the instructions for causing the processor to generate the guard packet further comprise instructions for generating a header comprising a sequence of a predetermined number of clear-to-send (CTS) packets that alert other communication devices using the first communication protocol not to transmit in the frequency band, each CTS packet comprising a duration identifier to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier depending on the place in the sequence of a particular CTS packet.

73. The software product of claim 68, wherein the instructions for causing the processor to generate the guard packet further comprise instructions for generating a header comprising a sequence of a predetermined number of subpackets, each subpacket comprising a request-to-send (RTS) packet and a silent period, the silent period lasting for a time period based on the length of a clear-to-send (CTS) packet according to the first communication protocol, and wherein the RTS packet comprises a duration identifier to inform an access point device for the first communication protocol to transmit a CTS packet in order to inform communication devices using the first communication protocol to refrain from communication for a period of time, the value of the duration identifier in a RTS packet depending on the place in the sequence of a particular RTS packet.

74. A method for controlling communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices occurs using first and second communication protocols, wherein the first communication protocol uses at least one fixed frequency range in the frequency band and the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band, the method comprising steps of:

at a first communication device having information to be transmitted using the second communication protocol,

prior to transmission of a plurality of time slots in the frequency band using the second communication protocol, determining frequencies associated with each of the plurality of time slots;

determining whether the frequencies associated with the plurality of time slots of the second communication protocol at least partially overlap with the at least one frequency range used by the first communication protocol in the frequency band; and

transmitting information using the second communication protocol from the first communication device using up to a maximum number of time slots whose frequencies do not at least partially overlap with the frequency range of the first communication protocol in the frequency band.

75. The method of claim 74, wherein the step of determining comprises determining whether the frequencies associated with one or more of the plurality of time slots for information to be transmitted from the first communication device to another communication device and the frequency associated with the time slot for a corresponding acknowledgment message to be transmitted from the other communication device to the first communication device using the second communication protocol each at least partially overlap with the frequency range of the first communication protocol.

76. The method of claim 75, wherein the step of determining comprises determining whether the frequencies associated with a maximum number of time slots associated with the second communication protocol and the frequency of an acknowledgment message time slot at least partially overlap with the frequency range of the first communication protocol, and if an overlap of is determined, then further determining whether frequencies associated with a lesser number of time slots associated with the second communication protocol and the frequency of an acknowledgment message time slot at least partially overlap with the frequency range of the first communication protocol.

77. The method of claim 76, wherein if it is determined that either the frequencies associated with each of the time slots in the plurality of time slots for

transmission of information from the first communication device or the frequency associated with an acknowledgment message time slot at least partially overlap with the frequency range of the first communication protocol, then determining a minimum number of time slots whose frequencies at least partially overlap with the frequency range of the first communication protocol but whose corresponding acknowledgment message time slot does not overlap with the frequency range of the first communication protocol.

78. The method of claim 77, wherein the step of transmitting comprises transmitting information from the first communication device using the second communication protocol in said minimum number of time slots if any one of the following conditions are satisfied:

(a) communication in the frequency band using the first communication protocol is idle for a first period of time; or

(b) the first communication device is configured to prevent communication of information using the first communication protocol during the time period that information in said minimum number of time slots will be transmitted; or

(c) the first communication device has been successful in a transmitting information in a predetermined percentage of a number of previous time slots using the second communication protocol, where the frequencies of the previous time slots at least partially overlap with the frequency range of the first communication protocol and where the first communication device was receiving information using the first communication protocol while it was transmitting information in the previous time slots.

79. The method of claim 78, wherein if it is determined that there is no minimum number of time slots that satisfies said conditions, then delaying at least two time slots before attempting to transmit information using the second information protocol.

80. The method of claim 74, wherein the first communication device receives a signal transmitted to it in accordance with the first communication

protocol while transmitting a signal in accordance with the second communication protocol.

81. The method of claim 80, wherein the first communication device filters out a frequency segment of the signal received in accordance with the first communication protocol corresponding to the transmission frequency of a time slot of a signal in accordance with the second communication protocol.

82. The method of claim 74, wherein the first communication device transmits a signal using the first communication protocol while transmitting a signal using the second communication protocol.

83. The method of claim 82, wherein the first communication device filters out a frequency segment of the signal to be transmitted in accordance with the first communication protocol corresponding to the transmission frequency of a time slot of a signal in accordance with the second communication protocol.

84. The method of claim 75, wherein the step of determining further comprises determining whether the frequency of the acknowledgment message time slot at least partially overlaps with an adjacent frequency range which is located adjacent to said frequency range of the first communication protocol, in which adjacent frequency range energy may be present due to non-linear distortion of a transmitter and/or receiver operating on signals using the first communication protocol.

85. The method of claim 84, wherein if it is determined that the frequency of the acknowledgment message time slot at least partially overlaps with the adjacent frequency range, then further determining whether a signal level of the acknowledgment message is greater by a predetermined amount than a level of energy in the adjacent frequency range at a corresponding frequency.

86. The method of claim 85, wherein the step of transmitting information using the second communication protocol is conditioned on whether the signal level of the acknowledgment message that at least partially overlaps with the adjacent frequency range is greater than the level of energy in the adjacent frequency band at a corresponding frequency.

87. The method of claim 74, at the first communication device, further comprising the step of determining whether communication in the frequency band using the first communication protocol is idle or sufficiently small, and if so, then said step of transmitting information using the second communication protocol from the first communication device using said maximum number of time slots being performed without regard to whether the frequency of a time slot at least partially overlaps with the frequency range of the first communication protocol.

88. The method of claim 74, wherein the first communication protocol is the IEEE 802.11 protocol and versions thereof and the second communication protocol is the Bluetooth™ protocol and versions thereof.

89. The method of claim 74, wherein the information to be transmitted on the second communication protocol is asynchronous type data.

90. The method of claim 74, wherein communication in the frequency band further occurs using a third communication protocol which operates during a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the third communication protocol and wherein each time frame is transmitted at a different frequency in the frequency band, wherein the time frame comprises at least one contention free time interval during which synchronous type data is transmitted between devices, wherein the step of determining further comprises determining whether a contention free time interval of a time frame associated with the third communication protocol overlaps in frequency and time with that of a time slot associated with the second communication protocol.

91. The method of claim 90, wherein the step of transmitting information using the second communication protocol is performed for up to a maximum number of time slots, whose frequencies do not at least partially overlap with the frequency range of the first communication protocol and whose scheduled time occurrence and frequency do not overlap with a contention free time interval of a time frame of the third communication protocol.

92. The method of claim 90, and further comprising storing information in a table that has an entry for each time slot of the second communication protocol that does not contain synchronous type data and which is determined to at least partially overlap in frequency with the contention free time interval of a time frame associated with the third communication protocol, wherein the value of an entry in the table indicates whether there is overlap between a time slot and a contention free time interval of a time frame.

93. The method of claim 92, and further comprising the step of determining the largest number of consecutive time slots whose frequencies do not at least partially overlap with the frequency range of the first communication protocol and whose values in the table indicate no overlap with the contention free time interval of a time frame according to the third communication protocol, and wherein the step of transmitting comprises transmitting information in said largest number of consecutive time slots according to the second communication protocol.

94. A controller for use in a wireless communication device that controls communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices occurs using first and second communication protocols, wherein the first communication protocol uses at least one fixed frequency range in the frequency band and the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band, the controller being configured or programmed to perform the steps of:

prior to transmission of a plurality of time slots in the frequency band using the second communication protocol from the communication device, determining frequencies associated with each of the plurality of time slots;

determining whether the frequencies associated with the plurality of time slots of the second communication protocol at least partially overlap with the at least one frequency range used by the first communication protocol in the frequency band; and

assigning information to be transmitted from the communication device using the second communication protocol in up to a maximum number of time slots whose frequencies do not at least partially overlap with the frequency range of the first communication protocol in the frequency band.

95. A software product stored on a processor readable memory containing instructions that, when executed by a processor, causes the processor to perform steps of:

determining frequencies associated with each of a plurality of scheduled time slots according to a second communication protocol, wherein a frequency for each time slot may be different within a frequency band;

determining whether the frequencies associated with the plurality of time slots of the second communication protocol at least partially overlap with the at least one frequency range used by a first communication protocol in the frequency band; and

assigning information to be transmitted using the second communication protocol in up to a maximum number of time slots whose frequencies do not at least partially overlap with the frequency range of the first communication protocol in the frequency band.

96. A method for controlling communication among a plurality of wireless communication devices in a common frequency band in which communication between communication devices occurs using first and second communication protocols, wherein the first communication protocol uses at least one fixed frequency range in the frequency band and the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that is transmitted in the frequency band, a method for transmitting information from a second communication device to a first communication device using the second communication protocol, comprising steps of:

at the first communication device, determining whether a frequency of a poll packet to be transmitted from the first communication device to the second communication device and a frequency of one or more time slots to transmit

information from the second communication device to the first communication device at least partially overlap with the frequency range of the first communication protocol;

transmitting a poll packet to the second communication device from the first communication device if it is determined that the frequency of the poll packet and the frequency of the one or more time slots do not at least partially overlap with the frequency range of the first communication protocol; and

at the second communication device, in response to receiving the poll packet, transmitting information to the first communication device using one or more time slots according to the second communication protocol.

97. The method of claim 96, wherein if the frequency for the poll packet at least partially overlaps with the frequency range of the first communication protocol and the frequency of the one or more time slots do not at least partially overlap with the frequency range of the first communication protocol, then transmitting the poll packet from the first communication device to the second communication device if any one of the following conditions are satisfied:

(a) communication in the frequency band using the first communication protocol is determined to be idle for a first period of time; or

(b) there is no information to be transmitted to the first communication device during a time period that the first communication device is to transmit the poll packet; or

(c) the first communication device has been successful in a transmitting a predetermined percentage of a number of previous poll packets using the second communication protocol, where the frequencies of the previous time slots at least partially overlap with the frequency range of the first communication protocol and where the first communication device was receiving information using the first communication protocol while it was transmitting the poll packets.

98. A method for controlling communication among a plurality of wireless communication devices in a frequency band in which communication

between communication devices occurs using first and second communication protocols, wherein communication using the first communication uses a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, including a contention free time interval being dedicated to transmission of synchronous data, and wherein each time frame is transmitted at a different frequency in the frequency band, and wherein the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band, a method for preventing transmission of information in a time frame according to the first communication protocol from colliding with transmission of time slots of information using the second communication protocol, in a communication device, the method comprising steps of:

prior to transmission of at least one time frame of information in the frequency band using the first communication protocol, determining a frequency of the at least one time frame;

prior to transmissions of a plurality of time slots in the frequency band using the second communication protocol, determining frequencies associated with each of the plurality of time slots that are scheduled to transmit synchronous data;

determining whether any of the plurality of time slots scheduled to transmit synchronous data using the second communication protocol at least partially overlap in frequency and time with the contention free time interval of the time frame of information to be transmitted using the first communication protocol;

setting values for the durations and/or start times of one or more time intervals in the time frame of information to be transmitted using the first communication protocol so as to prohibit any communication device in the frequency band from transmitting information using the first communication protocol during the contention free time interval that would at least partially overlap with the transmission of one or more time slots scheduled to transmit synchronous data.

99. The method of claim 98, wherein a beacon time interval in the time frame associated with the first communication protocol is used to transmit information describing parameters for the time intervals in that time frame, wherein the step of setting values comprises setting values for information in the beacon time interval to prevent the contention free time interval from overlap in time with the one or more time slots scheduled to transmit synchronous data.

100. The method of claim 99, wherein the step of setting values for the time intervals in the time frame comprises inserting one or more non-information bearing time segments in the time frame to move the contention free time interval to a position in the time frame that does not overlap in time with the one or more time slots scheduled to transmit synchronous data.

101. The method of claim 98, wherein if it is not possible to move the contention free time interval away from the one or more time slots that are scheduled to transmit synchronous data, then further comprising the step of alternating priority between transmission of the one or more time slots and transmission of the first contention free time interval with respect to similar collisions that occurred in prior time frames and similar collisions that may occur in future time frames.

102. A controller for use in a wireless communication device that controls communication among a plurality of communication devices in a frequency band in which communication between communication devices occurs using first and second communication protocols, wherein communication using the first communication uses a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, including a contention free time interval being dedicated to transmission of synchronous data, and wherein each time frame is transmitted at a different frequency in the frequency band, and wherein the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band, a method for preventing transmission of information in a time frame according to the first communication protocol from colliding with transmission of time slots of information using the second communication protocol, by performing steps of:

determining a frequency of the at least one time frame prior to scheduled transmission of at least one time frame of information in the frequency band using the first communication protocol;

determining frequencies associated with each of the plurality of time slots prior to scheduled transmissions of a plurality of time slots in the frequency band using the second communication protocol;

determining whether any of the plurality of time slots scheduled to transmit synchronous data using the second communication protocol at least partially overlap in frequency and time with the contention free time interval of the time frame of information to be transmitted using the first communication protocol;

setting values for the durations and/or start times of one or more time intervals in the time frame of information to be transmitted using the first communication protocol so as to prohibit any communication device in the frequency band from transmitting information using the first communication protocol during the contention free time interval that would at least partially overlap with the transmission of one or more time slots scheduled to transmit synchronous data.

103. A software product stored on a processor readable memory containing instructions that, when executed by a processor, causes the processor to perform steps of:

determining a frequency of at least one time frame prior to scheduled transmission of at least one time frame of information in a frequency band using a first communication protocol, wherein the first communication protocol uses a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, a contention free time interval being dedicated for transmission of synchronous data, and wherein each time frame is transmitted at a different frequency in the frequency band;

determining frequencies associated with each of the plurality of time slots prior to scheduled transmissions of a plurality of time slots in the frequency band using a second communication protocol, wherein the second communication protocol

uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band;

determining whether any of the plurality of time slots scheduled for transmission of synchronous data at least partially overlap in frequency and time with the contention free time interval;

setting values for the durations and/or start times of one or more time intervals in the time frame of information to be transmitted using the first communication protocol so as to prohibit any communication device in the frequency band from transmitting information during the contention free time interval when it is determined that one or more time slots scheduled to transmit synchronous data overlap in frequency and time with the contention free time interval for a time frame.

104. A method for controlling communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices concurrently occurs using first and second communication protocols, wherein communication according to the first communication protocol occurs during a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, a particular time interval in a time frame being dedicated for communication of synchronous type data, and wherein each time frame is transmitted at a different frequency in the band, and wherein the second communication uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band and wherein one or more time slots are dedicated for communication of synchronous type data, a method for preventing transmission of information in a time frame according to the first communication protocol from colliding with transmissions of time slots of information using the second communication protocol, the method comprising steps of:

at a communication device, prior to a scheduled transmission of at least one time frame of information using the first communication protocol and to transmissions of a corresponding plurality of time slots using the second communication protocol,

determining whether any of the plurality of time slots to be transmitted using the second communication protocol at least partially overlap in time with said particular time interval in the time frame;

identifying those time slots to be transmitted using the second communication protocol that at least partially overlap with said particular time interval of the time frame;

determining frequencies for each of the plurality of time slots to be transmitted using the second communication protocol;

for each time slot whose frequency will at least partially overlap with a frequency of the time frame and will at least partially overlap in time with said particular time interval of the time frame, storing information in the communication device to manage communication in the frequency band using the first and second communication protocols so as to prevent collisions between transmissions of time slots according to the second communication protocol with a time frame according to the first communication protocol.

105. The method of claim 104, wherein the step of storing information comprises building a table having an entry at least for each time slot of the second communication protocol that overlaps in time with the time frame according to the first communication protocol, and storing a distinguishing value in the table for those time slots that have been determined to at least partially overlap in frequency with the frequency of the time frame and with the particular time interval of the time frame according to the first communication protocol.

106. The method of claim 105, and further comprising a step of determining whether information scheduled for transmission in a time slot is synchronous type data or asynchronous type data.

107. The method of claim 106, wherein the step of storing comprises storing a value in the table for one or more time slots which (1) are determined to overlap in frequency with the frequency of the time frame, (2) are determined to overlap in time with the particular time interval of the time frame, and (3) are scheduled for transmission of asynchronous type data, wherein the value indicates

that transmission of the one or more time slots according to the second communication protocol is inhibited in favor of transmission of information in the time interval of the time frame according to the first communication protocol.

108. The method of claim 106, wherein for one or more time slots which are (1) determined to overlap in frequency with the frequency of the time frame, (2) determined to overlap in time with the particular time interval of the time frame, and (3) scheduled for transmission of synchronous type data, the step of storing comprises storing information to indicate that transmission of information in the particular time interval of the time frame according to the first communication protocol is inhibited in favor of transmission of the one or more time slots according to the second communication protocol.

109. The method of claim 104, wherein the step of storing is performed in advance of each time frame to build the table for all time slots that overlap in time with each time frame prior to the scheduled occurrence of each time frame.

110. The method of claim 104, wherein prior to the scheduled transmission of each time slot, further comprising a step of reading a value from the table corresponding to each time slot to determine whether to permit or inhibit transmission of information during that time slot.

111. The method of claim 104, wherein the particular time interval of the time frame of information to be transmitted using the first communication protocol comprises first and second contention free time intervals separated in time, wherein the first contention free time interval occurs prior in time to the second contention free time interval in a time frame, and wherein the second contention free time interval is dedicated to communication of synchronous type data in a time frame and the first contention free time interval is dedicated to retransmission of synchronous type data that was transmitted during a second contention free time interval of a preceding time frame, and wherein the step of identifying comprises identifying those time slots determined to at least partially overlap in time with either the first contention free time interval or the second contention free time interval, and at least partially overlap in frequency with the frequency of the time frame.

112. The method of claim 111, wherein the step of storing comprises storing a value for one or more time slots determined to (1) contain asynchronous type data, (2) at least partially overlap in time with the first contention free time interval or with the second contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, wherein the value indicates that transmission of the one or more time slots according to the second communication protocol is inhibited in favor of transmission of information in the time interval of the time frame according to the first communication protocol.

113. The method of claim 111, wherein for one or more time slots determined to (1) contain synchronous type data, (2) at least partially overlap in time with the first contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, the step of storing comprises storing information that results in alternating priority between transmission of the one or more time slots and transmission of the first contention free time interval with respect to similar collisions that occurred in prior time frames and similar collisions that may occur in future time frames.

114. The method of claim 111, wherein for one or more time slots determined to (1) contain synchronous type data, (2) at least partially overlap in time with the first contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, the step of storing comprises setting values for timing of various time intervals in the time frame so as to prevent the contention free time interval from overlapping in time with the one or more time slots scheduled to transmit synchronous data.

115. The method of claim 111, wherein for one or more time slots determined to (1) contain synchronous type data, (2) at least partially overlap in time with the first contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, the step of storing comprises setting values to insert one or more non-information bearing time segments in the time frame to move the contention free time interval to a position in the time frame that does not overlap in time with the one or more time slots scheduled to transmit synchronous data.

116. The method of claim 115, wherein for one or more time slots determined to (1) contain synchronous type data, (2) at least partially overlap in time with the first contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, if it is determined that it is not possible move the first contention free time interval away from the one or more time slots that are scheduled to transmit synchronous data, then further comprising the step of alternating priority between transmission of the one or more time slots and transmission of the first contention free time interval with respect to similar collisions that occurred in prior time frames and similar collisions that may occur in future time frames.

117. The method of claim 111, wherein for one or more time slots determined to (1) contain synchronous type data, (2) at least partially overlap in time with the second contention free time interval, and (3) at least partially overlap in frequency with the frequency of the time frame, the step of storing comprises setting values for time intervals of the time frame so as to decommission or eliminate the second contention free time interval of that time frame.

118. The method of claim 104, wherein the time frame of information according to the first communication protocol uses at least one contention time interval during which communication devices using the first communication protocol in the frequency band contend for access to transmit information using carrier sense multiple access procedures, and further comprising the step of determining whether a time slot of information to be transmitted using the second communication protocol will at least partially overlap with the contention time interval and is scheduled to transmit synchronous data.

119. The method of claim 118, wherein when it is determined that the time slot of information to be transmitted using the second communication protocol will at least partially overlap with the contention time interval and is scheduled to transmit synchronous data, further comprising the step of transmitting a guard packet from the communication device in accordance with the first communication protocol, the guard packet being formatted to alert and inform communication devices that use the first communication protocol to refrain from communication for a period of time in

the frequency band to enable transmission of information from, or reception of information by, the communication device in accordance with the second communication protocol during the period of time without colliding with signals in the frequency band on the first communication protocol.

120. A controller for use in a wireless communication device that controls communication among a plurality of wireless communication devices in a frequency band in which communication between communication devices concurrently occurs using first and second communication protocols, wherein communication using the first communication protocol occurs during a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, a particular time interval in a time frame being dedicated for communication of synchronous type data, and wherein each time frame is transmitted at a different frequency in the band, and wherein the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band and wherein predetermined ones of the time slots are allocated for communication of synchronous type data, the controller being configured or programmed for preventing transmission of information in a time frame according to the first communication protocol from colliding with transmissions of time slots of information using the second communication protocol, by performing steps of:

prior to a scheduled transmission of at least one time frame of information using the first communication protocol and to transmissions of a corresponding plurality of time slots using the second communication protocol,

determining whether any of the plurality of time slots to be transmitted using the second communication protocol at least partially overlap in time with said particular time interval in the time frame;

identifying those time slots to be transmitted using the second communication protocol that at least partially overlap with said particular time interval of the time frame;

determining frequencies for each of the plurality of time slots to be transmitted using the second communication protocol;

for each time slot whose frequency will at least partially overlap with a frequency of the time frame and will at least partially overlap in time with said particular time interval of the time frame, storing information in the communication device to manage communication in the frequency band using the first and second communication protocols so as to prevent collisions between transmissions of time slots according to the second communication protocol with a time frame according to the first communication protocol.

121. A software product stored on a processor readable memory containing instructions that, when executed by a processor, causes the processor to perform steps of:

prior to a scheduled transmission of at least one time frame of information using a first communication protocol and to transmissions of a plurality of time slots using a second communication protocol, wherein communication using the first communication protocol occurs during a plurality of time frames each of which includes a plurality of time intervals each of a variable time duration and dedicated to functions determined by rules of the first communication protocol, a particular time interval in a time frame being dedicated for communication of synchronous type data, and wherein each time frame is transmitted at a different frequency in the band, and wherein the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band and wherein predetermined ones of the time slots are allocated for communication of synchronous type data;

determining whether any of the plurality of time slots to be transmitted using the second communication protocol at least partially overlap in time with the particular time interval in the time frame;

identifying those time slots to be transmitted using the second communication protocol that at least partially overlap in time with the particular time interval of the time frame;

determining frequencies for each of the plurality of time slots to be transmitted using the second communication protocol;

for each time slot whose frequency will at least partially overlap with a frequency of the time frame, will at least partially overlap in time with the particular time interval of the time frame, storing information to manage communication in the frequency band using the first and second communication protocols so as to prevent collisions between transmissions of time slots according to the second communication protocol with a time frame according to the first communication protocol.

122. A method for controlling communication among a plurality of wireless communication devices in a common frequency band in which communication between communication devices occurs using first and second communication protocols, wherein communication using the first communication protocol occurs during a plurality of time frames each of which includes a plurality of time intervals dedicated to functions determined by rules of the first communication protocol, a particular time interval in the time frame being dedicated to assigning the start time and duration of subsequent time intervals in the time frame, and wherein each time frame is transmitted at a different frequency in the band, and wherein the second communication protocol uses a frequency that changes for each of a plurality of time slots of information that are transmitted in the frequency band, wherein each time slot is separated by a silent time period, in a communication device capable of communicating using the first and second communication protocols a method for preventing transmission of information according to the second communication protocol from colliding with the beacon time interval, comprising steps of:

generating from a common clock signal a first clock signal used to synchronize transmission of the time frames for the first communication protocol and a second clock signal used to synchronize the time slots for the second communication protocol; and

scheduling transmission of time frames of the first communication protocol with respect to the first clock signal and transmission of time slots of the second

communication protocol with respect to the second clock signal so as to guarantee that the particular time interval of a time frame in the first communication protocol is occurs during a silent time period between time slots of the second communication protocol.

123. The method of claim 122, wherein the step of generating the first and second clock signals comprises separately frequency dividing the common clock signal to generate first and second divided signals, and phase aligning rising edges of the first and second divided signals such that the rising edge of the first clock signal occurs a predetermined period of after the rising edge of the second clock signal.

124. The method of claim 123, wherein the step of scheduling comprises aligning a transmission of the particular time interval of a time frame according to the first communication protocol at the rising edge of the first clock signal and aligning transmission of a time slot according to the second communication protocol at the rising edge of the second clock signal.

125. The method of claim 124, wherein the predetermined period of time comprises a period of time at least equal to a duration of a data portion of a time slot according to the second communication protocol.

126. A method for enabling concurrent wireless transmission of first and second signals which at least partially overlap in frequency from a wireless communication device without substantial interference between the signals and degradation thereof, the first signal having a wide frequency bandwidth relative to that of the second signal, the method comprising steps of:

filtering out from the first signal a portion of its frequency bandwidth to generate a filtered signal, whereby a frequency location and bandwidth of the second signal coincides with the portion of the frequency bandwidth filtered out from the first signal; and

adding the second signal to the filtered signal to generate a composite signal; and

transmitting the composite signal from the wireless communication device.

127. The method of claim 126, and further comprising the step of attenuating a signal level of the second signal relative to a signal level of the first signal.

128. The method of claim 126, wherein when the second signal terminates before the first signal terminates, further comprising a step of allpass filtering the composite signal with a group delay which is the same as a group delay used in the filtering step.

129. The method of claim 126, wherein the first signal is a signal centered around a fixed frequency, and wherein the second signal is a time slot of information of a plurality of time slots, each transmitted at a different frequency.

130. The method of claim 129, wherein the first signal is a signal according to the IEEE 802.11 wireless communication protocol standard and versions thereof, and the second signal is a signal according to the Bluetooth™ wireless communication protocol standard, and versions thereof.

131. An apparatus for enabling concurrent wireless transmission of first and second signals which at least partially overlap in frequency from a wireless communication device without substantial interference between the signals and degradation thereof, the first signal having a wide frequency bandwidth relative to that of the second signal, the apparatus comprising:

a first modulator that supplies the first signal;

a second modulator that supplies the second signal; and

a notch filter having a selectable center frequency and an elimination bandwidth, the notch filter receiving as input the first signal in order to filter out a portion of its frequency bandwidth at the selectable center frequency and outputting a filtered signal; and

an upconverter coupled to the second modulator for upconverting the second signal to a desired frequency and to output an upconverted signal, whereby the

frequency location and bandwidth of the upconverted signal coincides with the portion of the frequency bandwidth filtered out from the first signal;

an adder coupled to the upconverter and to the notch filter and receiving as input the filtered signal and the upconverted signal to generate a composite signal for transmission.

132. The apparatus of claim 131, and further comprising an attenuator to attenuate a signal level of the second signal relative to a signal level of the first signal.

133. The apparatus of claim 131, and further comprising an allpass filter coupled to receive the composite signal output from the notch filter, the allpass filter having a group delay the same as a group delay of the notch filter to replace the filtered out portion of the first signal in the event that the second signal terminates before the first signal terminates.

134. The apparatus of claim 133, wherein the notch filter and adder are digital processes implemented by a processor.

135. The apparatus of claim 133, wherein the notch filter is controlled to filter the first signal at the selectable center frequency corresponding to the desired frequency.

136. A method for enabling concurrent transmission of a first signal and reception of a second signal which at least partially overlap in frequency at a wireless communication device without substantial interference between the signals and degradation thereof, the first signal having a wide frequency bandwidth relative to that of the second signal, the method comprising steps of:

filtering out from the first signal a portion of its frequency bandwidth to generate a filtered signal, whereby a frequency location and bandwidth of the second signal coincides with the portion of the frequency bandwidth filtered out from the first signal;

transmitting the filtered signal;

receiving the second signal at the wireless communication device concurrent with the transmission of the filtered signal;

adding the filtered signal to the second signal to generate a composite signal; and

filtering the composite signal to eliminate all but a portion corresponding to the frequency location and bandwidth of the second signal thereby recovering the second signal.

137. The method of claim 136, wherein when a duration of the second signal is shorter than a duration of the first signal, further comprising a step of allpass filtering the composite signal with a group delay which is the same as a group delay used in the first filtering step.

138. The method of claim 136, wherein the first signal is a signal centered around a fixed frequency, and wherein the second signal is a time slot of information of a plurality of time slots, each transmitted at a different frequency.

139. The method of claim 138, wherein the first signal is a signal according to the IEEE 802.11 wireless communication protocol standard and versions thereof, and the second signal is a signal according to the Bluetooth™ wireless communication protocol standard, and versions thereof.

140. A method for enabling concurrent transmission of a first signal and reception of a second signal which at least partially overlap in frequency at a wireless communication device without substantial interference between the signals and degradation thereof, the second signal having a wide frequency bandwidth relative to that of the first signal, the method comprising steps of:

transmitting the first signal from the wireless communication device;

receiving the second signal at the wireless communication device concurrent with the transmission of the first signal;

adding the first signal and the second signal together to form a composite signal;

filtering the composite signal to remove a portion of a bandwidth of the composite signal corresponding to a frequency location and bandwidth of the first signal, thereby recovering the second signal.

141. The method of claim 140, wherein when a duration of the first signal is shorter than a duration of the second signal, further comprising a step of allpass filtering the composite signal with a group delay which is the same as a group delay used in the filtering step.

142. The method of claim 140, wherein the first signal is a time slot of information of a plurality of time slots, each transmitted at a different frequency, and the first signal is a signal centered around a fixed frequency.

143. The method of claim 142, wherein the first signal is a signal according to the Bluetooth™ wireless communication protocol standard, and versions thereof, and the second signal is a signal according to the IEEE 802.11 wireless communication protocol standard and versions thereof.

144. An apparatus for enabling concurrent transmission of a first signal and reception of a second signal which at least partially overlap in frequency at a wireless communication device without substantial interference between the signals and degradation thereof, the second signal having a wide frequency bandwidth relative to that of the first signal, the apparatus comprising:

a first modulator for supplying the first signal;

an upconverter that shifts the first signal up to a desired carrier frequency to generate an upconverted signal;

a receive antenna for detecting the second signal;

an adder coupled to the upconverter and to the receive antenna to add the upconverted signal and the second signal to generate a composite signal;

a downconverter that frequency shifts the composite signal down to generate a downconverted signal;

a filter coupled to the downconverter that filters out a portion of the downconverted signal at a frequency location and bandwidth corresponding to that of the upconverted signal to thereby recover the second signal.

145. The apparatus of claim 144, wherein the filter and adder are digital processes implemented by a processor.